



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

involucres and peduncles with longer hairs, achenes 6 mm. long, light brown, and pappus shorter than the achene; and from *C. denticulata* Rydb. by its small size, small obovate leaves and smaller solitary involucres, 1 cm. high or less.

The plant grows in wet soil and is represented in my herbarium from many different localities, but shows invariably a remarkable regularity in characters, with exception of two occasional forms. One of them, found at Pleasant Lake, with large leaves and long petioles, has involucres with scanty and almost glandless hairs; the other, from the shore of Lake Ibsen, has long, glandless hairs, on the petioles and midribs of the leaves. As type has been selected a specimen consisting of plants collected by the writer at Butte, Benson County, on June 27 and July 16, 1912.

Leeds, North Dakota.

WESTERN MEADOW RUES.—I.

BY EDWARD L. GREENE.

The species of *Thalictrum* in the Middle West do not appear ever to have been made the subject on any critical study by any one anywhere hitherto. In that whole great field, the utmost that has been done has been the collecting of fragments for the herbaria, and sending them forth labelled, some *T. dioicum*, some *T. polygamum*, and some *T. purpurascens*, but it is almost a rarity to find any one of those names correctly applied; or, if one must make an exception to that statement in the case of the name *T. dioicum*—a group easily recognized—the two other names, according to the showing which all our herbaria make, are much more often incorrectly assigned than correctly.

When I speak of herbarium fragments as being about all that we at the East have for light and guidance on the subject of the meadow rues of the prairie regions, I am not saying that the specimens are small. The fact is that many of them are so large as to fill an herbarium sheet of standard size; but if a plant is six feet high, or even four, and only the mere top of it, with its flowers or fruits taken, that specimen, though it measure ten inches across and fifteen inches lengthwise, is still but a fragment, and wholly inadequate to the determination of the species, for

such a specimen never shows the foliage of the plant, and in all genera which, like this one, are of so high and complicated organization as to be compound-leaved, the leaves themselves are of the greatest importance to the systematist, as offering in untold thousands of instances the very best of specific characters. Now most of our tall meadow rues everywhere have their leaves so large that a single one taken from toward the base of the stem will fill an herbarium sheet as completely as its panicle of flowers will fill another; but nothing is so rare among our thousands of herbarium sheets as a good leaf of a large thalictrum. So we have to deal with fragments; and the treatment of these plants in botanical manuals is also, and in consequence, always a failure. Not that incompleteness of herbarium material is the sole cause of failure. The foliage when present has been strangely neglected. In untold instances in which a large genus displays in its extent great diversity as to outline, texture, color, venation and indument of its leaves, these are recognized as furnishing characters, often the very best, for species; but in thalictrum, now as of old, men strain their eyes in search for some small marks of flower and fruit on which to establish species, and seem blind to the most pronounced differences among them in respect to leaves; this of course is partly due, though not wholly so, to the deficiency of specimens in this particular.

Whoever gathers herbarium material of these large meadow rues should not stop short of five full sheets from each clump or colony. There should be (1) a panicle of the staminate plant in flower, (2) the same of the pistillate at that stage, (3) a later gathering of a fruiting panicle in its full maturity (4) a perfect full-sized leaf from a pistillate plant, then (5) the same from a staminate one. In not a few species there is almost an extreme difference in outline between the leaflets of the pistillate plant and the staminate. This announcement, which I believe is here for the first made, they who are determined that plant recognition and description shall be short and easy will pass in silence, and try to discredit it in whispers. It is at least the presentation of a new difficulty in the systematization of the species. Nevertheless, the difference is only one of outline, when it exists at all. The color, texture, venation and pubescence are the same in both sexes of the same species; so that this difficulty is not at all insuperable where the specimens are made in full, as above directed.

The few new species, of which descriptions follow are mostly of that group of which the Virginian and Carolinian *T. purpurascens* is typical. Even in the Eastern States and adjacent Canada several clear species have been from time to time confused with that; and finally—and needlessly—that old name has been made to give place to a newer one in the newest manual. As for the several climatic regions lying between the northern Alleghenies and the middle Rocky Mountains, nothing seems to me more improbable than that true *T. purpurascens* should occur in any of them. The differences of environment are far too great.

***Thalictrum Nortoni* nov. sp.**

Caulis 4–5 dm. altus, striatus, glaber. Foliola firma, superne glabra, glaucescentia, haud conspicue venosa, inferne pallida, ibisque venis tenuibus lutescentibus et lateraliter sparsim hirtellis percursa, ambitu subquadrato-obovata, basi subcordata, supra medium 3–5-lobata, lobis incisus acutis, terminalia 3 cm. longa, lateralia minora. Panicula plantae foemineae subcongesta. Achenia oblique fusiformia, subsessilia, costis continuis, valde elevatis acutis et leviter sinuosis notata, pericarpio toto sub lente minutissime asperato.

Type specimens of this far western member of the *T. purpurascens* group are in the herbarium of the New Mexico College of Agriculture and were collected in Riley Co., Kansas, in 1896, by Mr. J. B. Norton. They consist of three sections of one pistillate plant in fruit, but with basal leaves cut off and probably thrown away. What are probably the flowers of the same species, by the same collector and from the same place, are in the herbarium of the Wyoming University. The specimens are a fragment of a staminate plant, and one of a pistillate, both in good flowering state. The stamens are pendulous, the filaments being capillary, and hardly clavate under the anthers.

***Thalictrum albens* nov. sp.**

Planta metralis, caule tenui glabro, laeviusculo et pulchre purpureo-rubente, foliis paucis remotis sessilibus albescentibus instructo, vertice paniculam fertilem parvam subaphyllam gerente. Foliola submembranacea, utrinque valde glauca, supra sparsim setulosa, subtus magis crebre albo-hirtella, ambitu subquadrata vel quadrato-obovata, basi plerumque obtusa, apice 3–5-lobata

lobis breviculis acutis, terminalia 2-3 cm. longa, lateralialia 2 cm. longa, interdum oblongo-ovalia et integerrima. Carpella breviter fusiformia, sessilia, obtuse costata, glaucescentia et minutim hirtella.

Very elegant slender red-stemmed almost white leaved plant from Valhalla, North Dakota, collected 8 Aug., 1902, by L. R. Waldron; type specimen in Herb. Univ. Wyoming. It is the only member of the group of *T. purpurascens* I have seen with glaucescent as well as pubescent carpels.

***Thalictrum Sandbergii* nov. sp.**

Caulis metralis, validulus, anguloso-striatus, sparse et minutim setulosus folia ad 5' ampliuscula firmaque gerens et vertice paniculam fertilem pro planta parvam. Foliola supra glaucovirentia et sub lente sparsissime minutim et adpresse setulosa, subtus glauca et venis elevatis atque pube albo notata, terminalia 2-3 cm. longa late obovata, leviter et obtuse 3-lobata, lateralialia minora, oblique ovalia saepe integra, interdum 1-3-dentata. Carpella immatura ovalia, sessilia, pilis brevibus albis crebre hirsutula.

Remarkable species of the white-stemmed group, known to me in only a single but very good plant on U. S. Herb. sheet 340, collected at Itaska Lake, Minn., July, 1891, by J. A. Sandberg; his No. 1193, labelled "*T. polygamum*." The species would be another of those confused elements of the guessed-at "*T. dasycarpum*" of recent writers. The strictly staminate plant of *T. Sandbergii* would be an interesting thing to see, if such exist. The type specimen is mainly pistillate, but two or more stamens persist in most of the heads of perhaps only half-grown carpels.

***Thalictrum Wightianum* nov. sp.**

Caulis praealtus, striatus, glaucescens, glaberrimus, purpurascens, foliis amplis sessilibus obsitus. Foliola subcoriacea, superne pallide virentia et venis tenuibus albidis divergentibus notata, inferne glauca, ibique venis albidis elevatis ramossissimis manifestim reticulata, et setulis perpauca albis, praecipue secus venis, obsita, terminalia 3-4 cm. longa, ambitu obovata, basi subcordata, apice leviter, late et inaequaliter 3-lobata, lobis obtusis, lateralialia terminalibus dimidio minora, interdum ovalia, obtusa et integerrima. Panicula fertilis nuda, laxe lateque ramosa usque 4 dm.

longa. Carpella brevia, sessilia, plerumque elliptico-fusiformia, interdum breviora et ovali-elliptica, glaberrima, utroque latere costis 2-3 rectis acutiusculis percursa.

Along the Kalamazoo River at Allegan, Michigan, 11 Sept., 1902, collected by W. F. Wight. Two sections of a plant noted on the labels as "5 feet high" are on U. S. Herb. sheets 430181 and 430182. Being in good leaf and fruit at the date recorded indicates a plant flowering late in summer. It is of the *T. purpurascens* group, and the leaflets are revolute.

***Thalictrum amabile* nov. sp.**

Caulis verosimiliter metralis, striatus, glaber, pallide purpurascens, foliis sat amplis, sessilibus usque ad medium paniculae laxae instructus. Foliola firma, superne saturate viridia glaberrimaque, inferne glauca et indumento biformi, nempe, e papillis minutis numerosissimis et globulis majoribus paucas crystallinis sessilibus conspersa, terminalia ambitu rotundata, 3 cm. diametentia, apice leviter et latissime 3-lobata, lobis subaequalibus subtruncatis mucronatis. Rami paniculae plantae stamineae adscendentes, laxiflori. Flores mediocres albicantes. Sepala 4 oblanceolata, acuta. Filamenta nec numerosa, nec valde elongata neque manifestim clavellata, pendula. Antherae pro affinitate plantae breves, lineari-oblongae, aristato-mucronatae.

Only the staminate plant seen, and that in two specimens from near Mansfield, Ohio, collected in June, 1896, by E. Wilkin-son. On specimens showing so marked a habit, and so many characters of leaves and staminate flowers, there is little or no risk incurred in publishing a species on the one sex. The fine close papillose indument of the leaves beneath appears only under a very strong lens, but the sparse only subsessile larger transparent processes of the epidermis are visible with the simplest hand lens.

***Thalictrum Moseleyi*, nov. sp.**

Planta ut videtur metralis et ultra, caule valido, striato, purpurascente, glaucescente, glaberrimo. Folia inferiora ignota, superiora sessilia, supra saturate viridia, subtus glauca, undique glaberrima. Foliola 2-3 cm. longa, plerumque elliptica integra, interdum paulo latiora et 1-2-dentata. Panicula plantae stamineae ampla, circa 3 dm. lata, confertiflora, ramulis ultimis late patentibus vel modice recurvatis. Sepala oblongo-elliptica, albescentia.

Stamina numerosa, pendula; filamenta tenuia seorsim leviter clevellata antheris oblongis vel lineari-oblongis triplo longiora.

Type specimen in U. S. Herb., sheet 431249, collected in the township of Oxford, Erie Co., Ohio, 8 June, 1895, by E. L. Moseley. The specimen is labelled, by the collector, *T. polygamum*, though it bears no relation to that group of plants whose mark is upright clear white filaments bearing very short anthers. *T. Moseleyi* is clearly of the *T. purpurascens* alliance, though wholly distinct from that by its foliage alone if by no other character. One peculiarity of the present plant is, that what one would have liked to call its terminal large leaflets are all completely divided into three leaflets, the middle one of which is petiolulate, the other three sessile; and while the trifoliate terminals are together, as usual, larger than the laterals, some laterals are larger than the largest separate member of the triple terminal.

It has come of my long and careful study of thalictrum leaves of all groups of species, and from all over our country, that I place such dependence on these organs for specific distinction as to dare publish species, the fruits of which are unknown. Let the pistillate plants, and the fruits of each be what they will, and even just alike, if it so prove, this and *T. amabile* above, are valid and very different species.

***Thalictrum perpensum* nov. sp.**

Caulis modice tenuis, 4-6 dm. altus, laete stramineus, plus minusve striatus, aut omnino glaber aut pilis setulosis brevibus sparsissime obsitus. Folia haud ampla, inferiora petiolata, superiora sessilia. Foliola terminalia 2-3 cm. longa, late obovata, apice trilobata lobis latis, brevibus, obtusiusculis, lateralibus interdum ovalibus, integra, omnia superne laete viridia et glabra, inferne pallida et sparse albo-hirtella. Florum pedicelli, nec non sepala extus, sparse pilosi. Stamina alba, erecta, clavellata. Carpella oblique elliptica, distincte stipitata, sparsissime setulosa.

Type specimens collected by myself on low prairie land about Strathroy in western Ontario, in June, 1910. It is the plant referred to by me under the name of *T. dasycarpum* in Vol. I. of this Journal, p. 104. I have now become convinced that real *T. dasycarpum* is a much larger plant, and of the group of *T. purpurascens*, while *T. perpensum* is unquestionably of the *T. corynellum* alliance by its clear-white filaments all clavate and

standing upright. On the page of the NATURALIST quoted I have attributed my plant to low prairies of Southern Michigan. I observed it there only from my window on the railway train, but have no doubt that the plant was the same afterwards studied and collected in adjacent Ontario; through I must say that the low white-flowered prairie plant quite failed as we passed into the wooded and marshy regions skirting the St. Clair River and lower Lake Huron, not reappearing until we were well out upon the prairie region of Ontario. Moreover, Mr. C. K. Dodge, who has sent me meadow rues from all about Port Huron, has not met with this plant there. Nor have we, in U. S. Herb., any member of this particular group from any part of Michigan. All that has been named "*T. polygamum*" from those parts belongs to the *T. purpurascens* alliance. There is, however, one sheet of exactly *T. perpersum* in the National Herbarium, but this also comes from Ontario, where it was gathered at Elmira, 13 July, 1899, by L. M. Umbach. I am, however, quite confident that the white-flowered one of the Southern Michigan prairies will prove to be the same.

ACHILLAEA MULTIFLORA HOOK IN NORTH DAKOTA.

BY J. LUNELL.

Planta de rhizomate brevi oriens, perennis. Caules singulares vel interdum duo, usque inflorescentiam plerumque simplices, nonnumquam autem prope basin in 2-3 ramos principales divisi, supra corymbosi, 0.6-1 m. alti, leviter lanati, imprimis in iugis de basibus foliorum utrinque descendentes. Folia basilaria et surculorum sterilium inferiora petiolata, caulina sessilia, numerosa, linearia vel anguste lineari-lanceolata, 2-10 cm. longa, 0.5-1 cm. lata, in surculis sterilibus glabrata, in plantis fertilibus superne laxa, subtus quidem densius lanata, ad glabritudinem magis minusve proclivia, pinnatifida lobis primis in lobis spinuloso-dentatis mensurae variabilis iterum fissis. Inflorescentia corymbis est compositus, apice plano vel plerumque ramis remotis de axillis eius foliorum infimis oriundis centralibus magnopere altioribus, ramis eius rigidis et robustis. Capitula numerosa, 7 mm. alta, 4 mm. lata. Involucra 4 mm. alta, 4 mm. lata, late campanulata,